higher than average exposures? Isn't it the case that their exposures are not going to converge to the average over time?

MR. BERNICK: I'm sorry. I understand the second part of the question that there are other people who will never converge to the average?

MR. MULLADY: Correct, because they are always going to be above the average.

A I think within these job categories there is no evidence that I have that that individual that I said earlier is in the wrong place at the wrong time all the time. I showed the distribution of the data and I said I find it highly unlikely that there is someone far out on that distribution data that gets exposed to the highest level all the time.

Now if they are, some people don't converge entirely to the mean. If there are a few exceptions it's not going to change this analysis.

Q Can you cite to me any literature for the proposition that there is convergence to the individual cumulative exposure -- excuse me, can you cite to me any literature supporting the proposition or containing any data supporting the proposition that there is convergence of individual cumulative exposures to the overall mean for any occupational groups who have been studied for asbestos exposure?

MR. BERNICK: That again is now -- so it's specific to asbestos and its research demonstrating that with respect to

an asbestos group there is convergence on the mean?

MR. MULLADY: Yes, that's what I'm asking.

Q If you can cite to me any literature that would support the proposition that there is convergence to the average over time?

A I can cite certainly literature for any containment over time that has supported, and I already have, that has supported the concept that over time when you are trying to measure what the exposure is to a job, any job, whether it's these jobs or other jobs that it is the approved scientific method over time to observe over a long enough period of time. And this has been observed that the variables cancel and in fact you can define that over a long enough period of time that the mean concentration is the most acceptable way to define a concentration for that job category.

Q Okay. We talked about how each PIQ has different jobs included within -- each PIQ category has different jobs included within that category. You have agreed with that, correct?

A Some of then, yes, do.

Q And each job has a TWA exposure associated with it. Would you agree with that?

A Not necessarily because they were in these areas. Like the Category B when someone is cutting to put in an electric wire or cutting to put in a piece of plumbing equipment, it's

not as if they are highly variable jobs. The data that we have is Peter Lees domain to characterize those exposures for that entire job category.

Q Right. I understand why over time workers in a job, doing a job, a specific job, will have their exposures converge to the mean for that job. But what I don't understand is how over time workers' exposures in a category will converge to the average of that category. Can you explain that?

A Because workers who are -- the nature of exposure categories are of like activities.

Q They are of like activities?

A That's right. And the Category D with the person at the site, they can be doing different things but if they are the same distance from the activity, they are going to experience the same exposures. Likewise, someone in the space. If they are in the space they are going to experience like exposures from the activities that are going on in the space even though they may be doing a variety of different things.

So these categories are designed to capture like exposures. That's why they are nature of exposure categories.

Q Are you aware that the data that Dr. Lees provided you show that for sprayers and helpers within the same job category, there was a factor of three to six fold difference in exposure in the samples that he provided to you? Are you aware of that?

A I'm not sure what -- you are speaking of variability in his data. Is that what you are speaking of?
Q I'm speaking of TWA exposure measurements for sprayers and helpers in the same job category where the exposure values for sprayers were three to six times higher than exposure values for helpers. Are you aware of that data?
A I have not discussed specifically that data with Dr. Lees. And I don't know that you are representing it exactly the way he intended in his analysis. So I have relied on him for the analysis.
Q But your view would be that over time because the sprayers and the helpers are in the same job category that their exposures will converge to the average for that category.
A That's right.
Q Not necessarily to the average of the job they are doing?
MR. BERNICK: Objection to the form of the question. Objection to the form of the question. The question is just because they are in their jobs that they will converge --
MR. FINCH: Your Honor, I think Mr. Bernick's objection to form is sufficient.
MR. BERNICK: No, to the contrary. We've now been over this like -- this is not to be a question of whether the question can be reformulated the ninth time in order to urge a proposition on the witness that has already been answered eight times. And that question talked about job categories. It

didn't talk about actual job experience.

THE COURT: I --

MR. MULLADY: That was the last question on the subject, Your Honor. I'm ready to move on to another area.

THE COURT: We didn't get an answer first of all or a ruling. First of all this witness doesn't need to be coached. She's doing fine on her own.

MR. MULLADY: Totally agree.

THE COURT: Secondly, I don't think, Mr. Bernick, that I always need a long explanation, but I occasionally do. But I think I can ask for it when I do so we can make objections and state the specifics of the objection and then if I need argument -- this applies to all of you -- I'll ask for it so that we don't have that problem.

With respect to this one, this objection, I don't know if you are going to remember this question because frankly I don't. But nonetheless the objection is overruled. I think you can reask this question. I'm not sure you remember it, Dr. Anderson. If you do, you can answer it.

A I don't think I know what the question is.

THE COURT: All right.

Q I think the question was simply, assuming that I represented the Lees data accurately, it would be your view that the cumulative average exposures for the sprayers would converge -- strike that. Assuming I've represented the Lees

data accurately, it would be your view that notwithstanding the disparity in the TWA measurements between sprayers and helpers, that over time the exposure of helpers and the exposures of sprayers would both converge to the average for that group.

A Again, may I answer your question in three parts? One, I do not think I should be asked to reevaluate Dr. Lees data. One, I'm not an industrial hygienist. Two, he's presented his data so I don't know why I should be asked to assume certain things about it. And, three, I am very accustomed to seeing highly, highly variable environmental data. Sometimes the data can go from zero to very, very high values. So you see wide variations in data. The whole point is to have some representative sites and you don't have to sample every building or every situation that representative data to define what is going on in that particular category.

Beyond that, I can not unravel Dr. Lees work. I think he was here for you to ask him those questions. And I have known him for many years. I have the highest regard for his work. He is a very respected industrial hygienist and I have the confidence to use his work.

Q Well, let me ask you about --

THE COURT: And for the record, if I recall correctly it was either Dr. Lees or Dr. Moolgavkar, and I apologize offhand I don't recall which, who indicated specifically the variation because it was not all three to six times. In some

instances it was two and two and a half times that that was well within the range of categorizing categories together for sprayers and helpers, and that he himself did not think it inappropriate to put those categories of sprayers and helpers together. So this witness is quite correct that from her point of view that Dr. Lees' on testimony was that from his point of view he had appropriately characterized the evidence. So I just want the record to reflect that the witness in that respect I don't think was being asked to reevaluate Dr. Lees' data, but should know that Dr. Lees' own view of his own analysis was different from what is being represented. You can continue.

Q All right, well, let's discuss whether in your view Dr. Lees gave you the true average, the correct average to use for your work. Did you check to see whether Dr. Lees calculated the standard error for the averages he reported to you?

MR. BERNICK: I object to the prefatory statement. Let's see if he did it the right way and then he went on to say a standard deviation thereby assuming in his question that the standard deviation was necessary in order to figure out whether it was done the right way.

MR. MULLADY: Let me rephrase it.

THE COURT: All right.

Q Dr. Anderson, did you check to see whether Dr. Lees calculated the standard error for the averages he reported to

you?
A No, I didn't.
Q Can we have ACC/FCR-307?
A And I should add that is not material to the way I would use this data.
Q No, I didn't ask you that ma'am and I would move to strike that statement.
THE COURT: No, I will not have it stricken because Dr. Lees also testified that it would not be customary depending on the use of the data to make that calculation.
Q Let's see 3007. This is the Judicial Reference Manual on Scientific Evidence. Are you familiar with that work?
A What?
Q Are you familiar with the Judicial Reference Manual on Scientific Evidence?
MR. BERNICK: I would object to that question being asked as a yes or no answer, but depending on what the answer is.
A I'm not fully familiar with this document and I'm certainly not going to comment on a sentence out of the middle out of context.
Q It has the definition of standard error. Let me ask you, without reference to this, what do you understand --
MR. BERNICK: Your Honor, can we take it off the screen. There was a vigorous objection to my getting into

experts with experts, specifically Dr. Roberts that has anything to do with the law and on voir dire, voir dire here I guess, Mr. Mullady was at pains to point out that this witness didn't have expertise in the law and in fact they've objected with respect to all of our witnesses to commenting on that.

MR. MULLADY: It has nothing to do with the law, Your Honor. I really think. If you could just relax and wait for the questions, this would go a lot faster.

THE COURT: It probably would. You can ask the witness what her understanding is.

Q What is your understanding of what standard error means?

THE COURT: If she has one.

MR. MULLADY: Well I'll ask a foundation question.

Q You have some understanding of statistics and you apply statistical principles in your work, correct?

A I use regularly outcomes of statistical analysis and I have some familiarity with the statistical analysis. So I don't know, what are you trying to ask me?

Q Well I'm asking you what your understanding of standard error is. Are you familiar with that concept in statistics?

A Not specifically just standard error. I'm familiar with at various times for various reasons needing to put confidence and it rolls around let's say epidemiology outcomes.

Q Are you familiar with standard error being a tool that is used for analyzing the reliability of an average?

A It depends upon why you would do that. You wouldn't do that for purposes that I use these data because of what I just discussed. Using mean and variables cancel because of the long term assumptions I'm making. So I would not have used any information about ranges around these data sets because as I say I've seen such broad, broad variability in environmental data. It's routine that you do see very broad variation.

And the question is when one uses it in risk assessment, how do you account for it. And if it's a short term exposure as I discussed before I do one thing. If it's a long term exposure as I've done here, it's quite a different matter and that's why the mean is very appropriate to long term exposure risk assessment.

Q I understand that's your opinion.

A It's not only my opinion. It is a documented method of operation in the whole risk analysis world.

Q Would your opinion hold on -- I think you said there wouldn't be any reason to calculate standard error on the basis of what Dr. Lees provided to you. Would you still hold that view if I were to represent to you that Dr. Lees based his Category E exposures for Vermiculite and Chrysotile products on only five observations?

A I think these are questions for Dr. Lees. I've used his analysis and he is the industrial hygienist. And I think he had used the data that are available. I think he used all of

the data that are available. I think he qualified it before he used it and I think his analysis are sound and I should ask to channel your questions to him about his data sets.

MR. MULLADY: Just one more question and then, Your Honor, I will be ready to move to a different area, if the Court would like to take your afternoon recess, we can do that.

Q Is it fair to say, ma'am, that because you didn't check to see if Dr. Lees, Dr. Lees with an S, calculated the standard error, you do not know whether the estimate of the average for his Category E exposures has a large sampling error?

MR. BERNICK: Objection, lack of foundation.

THE COURT: No, I don't think so. Overruled.

A If you are talking about variability in his data, I have said that I have seen very large variability. It's routine in environmental data sets. These are industrial hygiene data taken specifically in at job sites and circumstances that are mimicking these nature of exposure categories. There's going to be some variation, I would expect it.

Q You -- excuse me, I'm sorry.

A But because of the long term assumption I've made and the nature of the exposure category definitions and the fact that I'm characterizing the exposure for those categories, not for any individual who happened to be some odd outlier, but for the category I would not have used any standard deviation measurements. That's why they are not asked for in this kind

of analysis and not asked for in environmental risk assessment when we're dealing with long term exposures.

Q You have done nothing to determine whether his Category E exposures has a sampling error or doesn't. Is that fair?

MR. BERNICK: Done nothing independently of Dr. Lees?

MR. MULLADY: Yes.

A You think I should have independently have reevaluated his data to see if he has a standard error in his data?

Q You are changing my question. All I asked you was did you do any work to determine whether his exposures, his Category E exposures, has a sampling error? Yes or no?

A I did not redo Dr. Lees' work, no.

Q You didn't redo his work is a little broader than what I asked you. I asked you if you performed any statistical analysis to determine whether there is a sampling error in his average for Category E? Did you do that?

A I have not redone his work. I've accepted his highest mean concentrations. I think I've made that statement before.

MR. MULLADY: Thank you. Your Honor, I'm ready to move to a different area. Would you like to take a break?

THE COURT: Yes, we'll take a ten minute recess.

MR. BERNICK: Can we have an estimate from counsel for the ACC/FCR about how much longer they are going to do?

THE COURT: Yes.

MR. MULLADY: We can do that in about five minutes.

MR. BERNICK: Thank you.

(Recess)

THE COURT: Mr. Mullady.

MR. BERNICK: Do we have an estimate?

Q Dr. Anderson, the last question I asked you related to the subject of --

A I'm sorry, I have a loud breeze about me.

THE COURT: It's going off.

A Okay. I'm not hearing you very well.

Q I'll try to speak louder. Okay, I'm sorry. Just continuing briefly on this issue of Category E and the observations that Dr. Lees used that were reported up to you for that category, I'll represent to you that he only had five observations and that these five observations were short term. One hour, one day, in other words eight hour TWA averages on the samples that he took.

Do you have an opinion that those five samples is enough to give you an accurate average to use for your analysis?

A Well, there certainly can be. And evidently Dr. Lees, who is far more experienced in the meaning of industrial hygiene data than I, thought they were. Sometimes we don't even have that many samples and it depends on the nature and quality of work and I relied on him for those data that I subsequently used.

Q Isn't it true though that the only way to -- the way to determine whether that is a proper sample or not is to conduct a statistical sampling error analysis?

A No, that wouldn't tell me anything except you know the variability of the data one way or the other. And I've already said variability is dealt with by my assumption of 11,250 days and that the reasons for the variability cancel out over time. So that's why I didn't ask him for it and that's why I didn't look to see if he did it because it doesn't matter. It doesn't change the mean. It just means we're getting a statement of deviation around the mean and it wouldn't change my work at all.

Q I think we're talking about two different things and it's probably my fault for not being clear. I'm not asking you about variability among the exposures that would then converge to the average.

A I thought you were talking about the data.

Q I am talking about the data but I'm not talking about the data in the sense of variability of data. I'm asking you about whether the average that you were given to work with was the proper average to use. In other words, was it derived through a proper process of having enough samples so that statistically the average isn't subject to a large sampling error? That's what I'm asking you about?

A Did you ask Dr. Lees about this? This is really his area,

but as for my experience being the recipient of data for many years we're trying to characterize in the case of the E, someone who is in the space with activities going on where asbestos is being used. It's being applied, it's being installed or something is going on there. So within that space we have information about someone who could be there passing through, who could be there for a longer time.

We have assumed that that person is in that space as a professional bystander. That someone is in that space for 45 years, 11,250 days in the year and I think that regardless of the variability in the data and also regardless of -- well, he qualified the data he had. You seem to be saying that you don't agree that he qualified it correctly or you don't think he had enough samples. But these are the data. These are historic data and it's his purview to characterize this information and he thought that his data were perfectly usable. And I think you have to discuss it with him.

Q Well, we tried to get into that with him a little bit. I think there was an objection and we were directed to discuss some of this with you. But leaving that aside.

MR. BERNICK: Move to strike the statement.

MR. MULLADY: I think Mr. Rasmussen, my partner, asked some questions of Dr. Lees about this and was, an objection was raised.

MR. BERNICK: I do agree --

THE COURT: This is not the area, I believe, that was inquired of Dr. Lees and in which the objection was sustained. I don't believe that is the case.

MR. BERNICK: In any event, Your Honor, whether it happened it is not an appropriate subject for commentary by counsel.

THE COURT: Well that's true too. And I believe that the issue was her use of the data that was going to be inquired of this witness, not how Dr. Lees characterized the data.

Q Let me just try this, Dr. Anderson, how this relates to your work is as follows. Would you agree with me that if hypothetically five samples for Category E was too few a number of samples to derive the true average of the exposures cumulatively for workers in that category because that was subject to a large sampling error statistically, isn't it true that that would compromise the scientific reliability of the average that you've used for Category E for purposes of your analysis?

MR. BERNICK: Objection to the form of the question. This is --

MR. MULLADY: We have the objection.

MR. BERNICK: Objection to the form of the question. What does true average mean? Is that a statistical term? Is it a scientific term? Can we clarify what that question means?

MR. MULLADY: The proper average, the correct average

to use.

MR. BERNICK: For what? Again this is a setup for somebody else to come in and talk about true average and I think you ought to ask the witness a fair and open question so that she understands what it is that he's getting at.

THE COURT: I don't know what true average means. I just don't know what that means.

MR. MULLADY: I'll try the question again.

Q I want you to assume hypothetically Dr. Anderson that Dr. Lees use of five samples for Category E subjected those samples to a large sampling error. Do you agree that if those -- if that average drawn from a sample set with a large sampling error is not a proper average to use, that that affects your use of that average for purposes of ruling claims as either meritorious or not?

MR. BERNICK: I think if you are going to ask that there is a lack of foundation. We now have this characterized as a sampling issue. If this witness agrees that this should have been a sampling effort, I think that's an appropriate question.

MR. MULLADY: That's what this has been about for the last 30 minutes.

MR. BERNICK: No, sorry. You've assumed in your questions, because you have another expert, that this is a sampling issue, that is, that there was an effort to sample and

presumably come up with some representative number. You haven't established to this witness that that has anything to do with her understanding of how this should be done. So I think that there's a lack of foundation for that question.

Q You accepted Dr. Lees average for Category E that he gave you, correct?

A That's correct.

Q All right. But you didn't test to see whether it was subject to a sampling error, correct?

A No, I didn't test any of his data to see if it was subject to a sampling error.

Q If it was subject to a sampling error, it was the wrong average to have given you, wasn't it?

MR. BERNICK: Objection to the form of the question and foundation.

A I think that there is a basic flaw in what you are asking. And that flaw is you want me to assume something detrimental to Dr. Lees when he's not here to answer the question about his data, when he's not here to answer that question either. And about the number of samples. Well, it depends very much on how the samples are taken, where they are taken, and how representative they are.

I was not the one who made those judgments. Those are Dr. Lees' judgments. If I were to go back and sit with him, you know, that would be a different matter. If he had

thought that he didn't have representative data, that it was not useful, I don't think he would have given it to me.

And the second thing is that the data are what they are. We have these data for products to evaluate and sometimes we don't have the luxury of going back and collecting additional data. So these are the data we have. He thought that they were perfectly good data for this purpose. He did his analysis and he gave them to me. I do not think it's within my domain to go back and reanalyze his data. And I don't think that I am comfortable answering hypothetical questions about his data.

Q If the mean that he gave you for Category E has a large error, then using that mean could result in erroneous analysis by you, correct?

A I have no reason to think that his data had a large error.

Q But if they did, that could result in erroneous analysis by you, correct?

MR. BERNICK: Objection to the form of the question and it lacks foundation.

THE COURT: This is a hypothetical question and I believe the witness has said she has no basis on which to assume that there is any such error. But she is an expert and she is -- it is proper to ask her a hypothetical question. If you will lay the assumptions on which you want her to answer your hypothetical question, and do it properly so that we can

get through it without any objections, she will answer your question.

MR. MULLADY: I thought I did that but I'll try again.

Q The average that Dr. Lees reported to you has a large sampling error and using that average could result in erroneous analysis by you for the Category E claimants?

A Let me answer this way. In any risk analysis work if the underlying data have serious flaws then they will be reflected in the next step in the analysis. I have no reason to think that Dr. Lees data had any such flaw.

Q Thank you. I want to ask you now about PCM and PCME. You, as I understand it, do not use the PCM measurements from Dr. Lees report as your exposure levels for the Grace claimants, correct?

A That's correct. That has been traditional in all of the EPA risk assessments that are done.

Q You instead use conversions of those measurements and do what Dr. Lees calls PCM equivalents or PCME, correct?

A Yes. And that's proper and it's stated in the EPA IRIS file that if you are going to deal with the dose response information that's supplied in that file that the proper attention should be given to the representativeness of PCM measurements when they are taken in environmental situations.

Q The PCM measurements are reductions of the fiber counts

observed through PCM which is phase contrast microscopy to eliminate from the fiber counts the fibers that are not asbestos, right?

A It's routine in environmental -- when samples are taken in environmental circumstances. I can explain this to you. Because PCM measures all the fibers whether they are asbestos or not. When the original epidemiology studies were done in the asbestos rich environments where production was going on with asbestos products, it is thought that the PCM measurements, that that metric and those environments were predominantly asbestos.

We now know when we move to environmental environments we get varying levels of asbestos but PCM sees all of the fibers in those environments. And the only way to make the adjustment and to use EPA's work is to compare apples and apples. So the PCM values need to be adjusted and the way they are adjusted is to use TEM to see how many of those fibers are asbestos and how many are not for a particular circumstance, and then do some conversion.

Q Okay.

A That's typical of what is done.

Q I think you told us on direct that it's your view that EPA's Integrated Risk Information System, which goes by the acronym IRIS, requires a conversion from PCM to PCME.

A And I said it says to use with caution PCM data when it's

collected in an environmental circumstance.

Q Can we have 3019 please?

A And I know this language, I wrote it. I had a large part in dealing with this and I did asbestos risk assessments for years and one has to make these conversions. And the work that was commissioned by EPA, the Berman & Crump report they emphasize the importance of these. This is just routine. It's very simplistic.

Q Let's look at some of your language from the IRIS report.

A It says, Use With Caution.

MR. BERNICK: Do we have that document?

MR. MULLADY: 3019, you should.

MR. BERNICK: We have 3018.

MR. MULLADY: Sorry.

Q Let's go to Page 6.

A What are we looking at?

Q We're at Page 6 of the IRIS report, Roman II, Letter C, Paragraph 3. "Risks have been calculated for males and females according to smoking habits for a variety of exposure scenarios. The unit risk value is calculated for the additive combined risk of lung cancer and mesothelioma and is calculated as a composite value for males and females." We're skipping down.

I really meant to read the second paragraph here where it is talking about the unit risk and how it's measured.

"The unit risk is based on fiber counts made by phase contrast microscopy PCM and should not be applied directly to measurements made by other analytical techniques. The unit risk uses PCM fibers because the measurements made in the occupational environment uses this method."

A That's what I just said.

Q Okay. And it also says at the top of Page 7, "Likewise, the correlation between PCM fiber counts and TEM fiber counts is very uncertain and no generally applicable conversion factor exists for these two measurements." Do you agree with that statement?

A That's correct and that's why you need to do it for each environmental circumstance to get an appropriate conversion for that circumstance if possible.

Q Let's look at 3020, the Berman & Crump article that you referenced a moment ago. The final draft of the EPA paper. Let's go to Page 5.2 at the bottom under the heading, Human Epidemiological Studies.

THE COURT: What's the exhibit please?

MR. MULLADY: ACC/FCR-3020.

Q You cited this paper I think in your report, Doctor, correct?

A I don't recall whether it's cited in this report or not. I can look.

Q Well, that's okay. I just want to read you some language

from this.
A I mean I have cited this work.
Q Right.
MR. BERNICK: What page are we on?
MR. MULLADY: 5.2.
Q It says, "Impinger measurements are sometimes related to fiber counts based on PCM using side by side measurements of total dust and fiber counts collected during a relatively brief period of time." And there's a citation to the Dement article from 1983 and McDonald.
"However, the correlation between fiber counts and total dust is sometimes poor within a plant, i.e. a single study environment."
A I'm sorry, where are you reading?
Q We have it on the screen. It's highlighted at the bottom here.
A Oh, I don't have it on my screen. Are you moving to Page 53?
Q Your screen doesn't have what's on this screen?
THE COURT: It does. Where the yellow is highlighted.
A Where are you? What you just read that in continued.
Q I'll start again. I'm just reading the highlighted language on the screen. "However the correlation between fiber counts and total dust is sometimes poor within a plant, i.e. a

single study environment and generally poor between plants. See for example U.S. EPA 1986. Thus, conversions based on limited sets of -- limited sets of paired measurements are of questionable validity." Do you agree with that statement?

A Well, I think we have to see what they are talking about. They tell you dust, they could be talking about asbestos by weight and I don't know.

Q Well, isn't it true that OSHA regulations require analytical laboratories to use PCM or an equivalent method for collecting and analyzing fiber samples?

A Yes, and they go on to make provisions for making the conversion when appropriate, using, I think it's method 7204 for TEM measurements to adjust PCM to PCME. I've given you the logic. Sometimes you can only understand things if you -- if you understand the logic behind them. And PCM was the method that was available in these old epidemiology studies. So it was the metric that was used in the dose response work in the 1986 EPA risk assessment.

When we moved beyond those times when PCM was used and we start to use TEM we find that when we get in these mixed environmental environments we can be measuring on no asbestos. We can be measuring one percent. So you have to make some adjustments and you have to make -- there has to be some judgment about those environments and that's why the IRIS file says use with caution. But if you are in certain environments,

you need to at least test your data to see if you are measuring predominantly asbestos or something else. And if you are going to use the data quite seriously in an analysis like this, it's absolutely essential to make the conversion because otherwise you don't know what you are counting.

Q But if the measurements or the conversions are based on limited samples of paired measurements such as between plants, they are of questionable validity?

A Well this is talking about --

MR. BERNICK: Objection.

A -- between plants and total dust and I'm not sure but this could be talking about mass weight rather than particles on -- I mean, you've given me this one excerpt. And I suspect that is what they are talking about. Also PCM between plants, they could be talking about just variable measurements between plants which would not be surprising which is an entirely different topic. Would you expect the same PCM measurements in one facility doing one kind of work compared to another facility doing a different kind of work?

Q Let's go to 3018. I want to pull up the OSHA regulation. This is 29 CFR Section 1926.1101.

THE COURT: Mr. Mullady, I apologize. I didn't get the exhibit number.

MR. MULLADY: It's ACC/FCR 3018.

THE COURT: Thank you.

Q Okay, this is the OSHA regulation. Can we explode it a little bit so it's readable. Okay, 1926.1101, Construction, at the top here.

THE COURT: This is the new one?

MR. MULLADY: Yes.

Q Construction, Alteration, Repair, Maintenance et cetera. I want to go down and refer you to the section Appendix A, OSHA Reference Method Mandatory. "This mandatory appendix specifies the procedure for analyzing air samples for asbestos and specifies quality control procedures that must be implemented by laboratories performing the analysis. The sampling and analytical methods described below represent the elements of the available monitoring methods such as Appendix B of this regulation. The most current version of the OSHA method id-160 or the most current version of the NIOSH method 7400. All employers who are required to conduct air monitoring under Paragraph F of the standard are required to utilize analytical laboratories that use this procedure or an equivalent method for collecting and analyzing samples." Did I read that correctly?

A Yes, you did.

Q Now these options listed here, Appendix B of OSHA, Appendix B OSHA, Method id-160 and NIOSH method 7400 are all PCM methods, aren't they?

A I am not an expert on OSHA methods so I can't tell you

exactly the numbers, but I do know that in mixed environment following the logic that I've just described that OSHA makes a provision and I believe it's 7204 for conversion when you are in these mixed environments. So I don't know. You can read me all of the OSHA regulations but it's not exactly my field.

Q I understand and I understand that --

A I do know the logic and I do know that OSHA has the same provisions as EPA does. The same logic because it only makes sense.

Q Let's go to the third page of this document. "A great deal of experience is required to routinely and correctly perform differential counting. It is discouraged unless it is legally necessary." Do you see that?

A Yes, I see that.

Q What is your understanding of what is meant by differential counting?

A I think that for you to give me one sentence at a time from OSHA regulations isn't helpful. Because it would have to be read in context. Because I know the logic that OSHA uses. I know the logic that EPA uses and to read me one sentence at a time I think can be very misleading.

Q Well let's -- and I don't want to mislead and I will read more because -- and maybe that's necessary to put this in context. At the top of this page it reads as follows. "As previously mentioned in Section 1.3 PCM does not provide

positive confirmation of asbestos fibers. Alternate differential counting techniques should be used if discrimination is desirable. Differential counting may include primary discrimination based on morphology, polarized light analysis fibers or modification of PCM data by scanning electron or transmission electron microscopy."

I'll stop there for a second. Transmission electron microscopy is also known as TEM, correct?

A Correct.

Q Then it goes on to say, the regulation does, "A great deal of experience is required to routinely and correctly perform differential counting. It is discouraged unless it is legally necessary. Then only if a fiber is obviously not asbestos should it be excluded from the count. Further discussion of this technique can be found in reference 8.10." That is OSHA's position, correct?

A I would not characterize this as the totality of OSHA's position because there is something wrong here that is discouraged unless it is legally necessary. I know that -- I know the logic that OSHA uses and there is something wrong. I'm not seeing the entire regulation. I don't know about the date. But I do know that there is the same logic at OSHA as there is at EPA, and that is when you are in a mixed environment you do need -- and when you do need to do risk assessment work and you do need to know if you are counting

asbestos fibers they need to be converted to PCME.

Q Thank you.

MR. MULLADY: I'll pass the witness.

THE COURT: Pardon me, Mr. Mullady. I'd like to ask the witness a question based on the OSHA regulation. I know Dr. Anderson, you don't profess to be an expert in the OSHA regulations. I understand that, but is the policy not consistent with the EPA policy that you are looking for the maximum possible counts so that you can ensure public health?

DR. ANDERSON: Yes, but if it's not asbestos fibers there is a provision made for using the TEM to find out if you are dealing with an asbestos fiber or if you are dealing -- PCM can just count all kinds of fibers beside a road when people are doing roadwork and there can be virtually none or none as far as asbestos counts are concerned.

So once you know the environment you are dealing with, then maybe you don't need to use it. But if you are going to try to identify what's asbestos it's essential to use some method that can identify it when you are not in an asbestos rich environment. And when you are in construction trades and transportation trades you can have a predominance of other kinds of fibers that would be seen by PCM.

THE COURT: All right, thank you. Mr. Mullady, do you have any follow up based on my question to the witness?

MR. MULLADY: No, I think to the extent we would have

any more inquiry on that Mr. Finch is quite capable of following up.

THE COURT: All right, thank you. Mr. Finch.

MR. FINCH: Nathan Finch for the Asbestos Claimant's Committee.

CROSS EXAMINATION

BY MR. FINCH:

Q Just one follow up. Dr. Anderson, you are not a microscopy expert and you are not professing an expertise in that area, correct?

A That's correct. And I have looked through these microscopes and I do know what microscopists do.

Q You were asked some questions by Mr. Mullady about the review of the person injury questionnaires. Do you recall those questions, that Exponent did?

A Yes.

Q Okay, is it correct that unless someone either in their questionnaire or their questionnaire attachments said that they personally mixed or personally installed a Grace containing product they would have been put in the B, D or E categories?

A Not necessarily. You are saying if they didn't self-identify as an A or C.

Q In review of the backup materials you couldn't tell if they were an A or in a C, then they would most likely have been in the B, D, or E category.

MR. BERNICK: Objection to the form of the question.
A No. I don't think so at all. I think we -- there was equal weight to end up in any one of the categories from the background review of the materials. It just depended on what was in the background review. There was no bias as to if they didn't self-identify then they weren't going to be -- to have an opportunity to be placed in an A category. That was not the approach.
Q I think you misunderstood my question.
A I'm sorry.
Q If someone said, let's say that they are an electrician and they didn't say that they personally mixed or personally installed a Grace containing product then they would be categorized as someone who is in a space or in a site or removed or cut the product a B, D or E, correct?
MR. BERNICK: Again, I'm objecting, I'm sorry, object to that form of the question. You are saying that they identify a job title but they don't have anything in the backup that relates to or talks about their actual, what other category they would fall into in terms of contact with asbestos?
A Is that the question?
Q They identify themselves as an electrician and they don't have anything further.
A We did not classify anyone according to just a job title.

Q Okay. Could you turn to your July 31st expert report? It's in the notebook up there but it's ACC/FCR-432. Page 12. So if the PIQ or the attachments included the relevant key word such as mix or move, cut or install, you would put them in the appropriate category, correct?
A That's correct.
Q So if someone said that they mixed Grace Zonolite plaster, then they should have been put in the Category A, correct?
A If the rest of the materials, you know, supported that. I mean the whole file had to be read, but if that's what the file said in its totality that's where they would have been placed. And if they had two job experiences. Let's say they were at some point at a site where something was being done but at another time they actually were a mixer and that's what the totality of the materials, the backup materials said, and if they also identified they had been exposed to a Grace product, they would have been elevated to the highest exposure category.
Q Okay, if there was insufficient information from which to tell whether they were an A through an E, then you categorized the people with insufficient information in the same ratio as if they did have information, correct?
A I think if I understand your question correctly, the answer is no. If they had information and they were clearly either an A or E, and we didn't know which one we put them in the A. We wouldn't have put them in insufficient and that is

if the information showed through other factors that they were exposed to a Grace product and the whole file supported the information, not just some word that was not supported by other information in the file, or there were contradictions in the file or that kind of thing. But no, we wouldn't have put them in insufficient merely because at one point they did one job and at another point they did another job. If they were exposed to --

Q If they were a construction laborer and they said that they were in the vicinity of someone who was mixing Monokote, then they would not be treated as a mixer or installer, correct? They would be put either at a site or at a space?

A I think that has to be --

Q Well, could --

A I think I can't generalize. It would depend on the file.

MR. BERNICK: Your Honor, the protocol was being displayed to the witness in the court and all of a sudden, the screen went blank.

MR. FINCH: We put the screen back up. Sorry.

BY MR. FINCH:

Q Would you -- you also reviewed about 350 closed, settled mesothelioma claims, is that correct, Exponent did?

A Exponent did. They're not in my report.

Q But they did that for purposes of Dr. Florence's later analysis, correct?

A I understand that they are going to be provided to him. I don't really know very much about them.
Q Okay, obviously, the settled mesothelioma claims don't have questionnaires, correct?
A I believe that's correct.
Q Okay, so in that case what the Exponent people did is they reviewed whatever materials Grace provided to them and put the person in the appropriate A through E classification, correct?
A That's my understanding.
Q And they were supposed to use the same protocol for reviewing the settled claims files as for reviewing the questionnaires in terms of whether someone was a mixer or an installer or one of the other categories, correct?
MR. BERNICK: I'm sorry, Your Honor. At this point the witness is being asked about work that her firm didn't do and I don't believe that she is relying on them. If I am mistaken about that, I'd like to know, but I think --
MR. FINCH: That's not correct.
BY MR. FINCH:
Q Dr. Anderson, your firm did review 350 settled mesothelioma questionnaires, correct?
A I have said they did but it's not part of my report and it's not part of my analysis.
Q Do you know to the extent to which Dr. Florence relied on that review of the settled claims?

A No.

MR. BERNICK: Object.

BY MR. FINCH:

Q If a document in the settled claims file said the worker personally mixed a Grace asbestos product, they should have been categorized as an A, correct?

MR. BERNICK: Objection to the form of the question and foundation and it goes beyond the scope of this witness's testimony and her opinions in this case and he's now seeking to get this witness to comment on work that may or may not have been done in connection with Dr. Florence's work. He should ask the question of Dr. Florence and not ask this witness to express opinions that he can then use to impeach --

THE COURT: I think what I said earlier was I would take the objection in a short summary of the basis for it. I don't need the argument, I think, unless I ask for it. Mr. Finch, I think the witness has said she doesn't know how this was done.

MR. FINCH: Your Honor, Dr. Florence also said he didn't know how this was done. It was her firm that did the work.

THE COURT: Well, that doesn't mean you know everything that's happening in your firm. Sometimes it would be nice if you did. If you want to lay a foundation, fine, but so far --

BY MR. FINCH:

Q Okay, would you agree with me that the Exponent people reviewed whatever documents Grace gave them for reviewing the settled mesothelioma claims files?

MR. BERNICK: I object to this question. It's going beyond the scope of my examination and any other cross. He's seeking to use this witness now to express opinions that go beyond the scope of her appearance here. If he wants to call her as part of his case, he can do that but he doesn't do it on our time as --

MR. FINCH: I'm not asking her to express an opinion. I'm asking her did they do this or did they not do this.

THE COURT: You can ask her if she knows.

BY MR. FINCH:

Q Do you know if they did this?

A I said I am aware that some closed claims were reviewed. I did not include the analysis in my report. I don't know the results of those analyses.

Q And you're aware that the same people who reviewed -- the same people at Exponent who reviewed the questionnaires also reviewed the claims -- the closed claim files?

A That's right.

Q And they were given the same protocols?

A As far as I understand it.

Q Do you have a big, fat notebook in front of you, Dr.

Anderson? On direct examination you were asked about Dr. Moolgavkar's 3.2 benchmark, do you recall that?

A Yes.

Q Okay, and you said that was based on the all fibers calculation from the 1986 EPA Airborne Asbestos Health Assessment update document?

A I think that Dr. Moolgavkar has discussed this in detail in his report. I prefer to rely on him for that analysis.

Q Could you turn your book to Grace Exhibit 188? It's also ACC/FCR 298. Are you familiar with this document?

A Yes, I am.

Q It was authored by Dr. William Nicholson under contract for the EPA?

A Yes.

Q This is the same William Nicholson who published projected future mesothelioma incidence in the United States paper in 1982?

A Yes, it is.

Q Could you turn to Page 90? You understand that -- you see the table at the top there, Dr. Anderson?

A Yes.

Q You understand that K Sub-M is the relative potency factor for various types of asbestos fiber?

A It's a potency constant.

Q It's a potency constant. And the 1.0 times ten to the

minus eight is the all fibers constant, correct?
A I'm not sure that that's correct because what Dr. Nicholson did to derive his dose -- I don't think that's correct.
Q You testified on direct that you thought that the 3.2 benchmark wasn't appropriate because it included chrysitolite, correct?
A That came from Dr. Moolgavkar. My understanding is -- what you're looking at is the data table that has the summary of the four studies that Dr. Nicholson used to merge the studies to get K Sub-M for mesothelioma from these four studies and then he used the K Sub-M ratio to the K Sub-L to use the other -- these were the only studies he could qualify for the meso analysis. So then he used the ratio to the K Sub-L to go back and pick up the other studies so he used ten studies and he used one dose response curve and it was from that EPA dose response curve that I believe this three point number was derived and Dr. Moolgavkar has discussed that.
Q Okay, you don't know whether the --
A He didn't use one study out of one of the four studies that was used as the basis for the derivation of the single curve that Dr. Nicholson presented that's in the EPA IRIS -- the basis for the EPA IRIS file.
Q The basis for the EPA IRIS is the 1.0 times ten to the minus eight. That's within the EPA, correct?

A No.
Q That's not what the EPA used?
A No, this is a summary of the four studies that were used to derive the K Sub-M factor for EPA's dose response work and then the ratio was used -- Dr. Nicholson derived only one dose response curve for cancer for all fiber types.
Q Isn't it true that the average value of K Sub-M in the 1986 EPA paper is thus 1.0 times ten to the minus eight?
A No.
Q Would you turn to Page --
A What you're talking about -- you're trying to take the parameter, the single parameter and equate it to the dose response curve that Dr. Suresh Moolgavkar used in his analysis and that EPA has used for years for the dose response curving. What he was doing was a doubling of risk using that curve which is based on all of these studies to derive that --
Q I understand that, but --
A And so you have to ask him about what he did. It's his --
Q Okay well, I asked Dr. Moolgavkar what he did yesterday and we'll move on. Would you agree with me that this table on page 90 shows a K Sub-M for insulation workers that is higher than 1.0 times ten to the minus eight, correct?
A I think he displays all of his K Sub-M for the four studies that he used here so --
Q And would you agree with me that 1.5 times ten to the

minus eight is a higher potency factor than 1.0 times ten to the minus eight?

A This isn't a potency factor. It's a constant that's used in the equation.

Q Would you agree that it's a larger constant?

A Yes, it's a larger constant.

Q Okay, and would you -- do you agree that the insulator cohort that is referenced there with the potency constant was exposed only to chrysotile and amosite fibers and not to chrysitolite?

A I'm going to ask you to have this discussion with Dr. Moolgavkar. This is what is in his expert report. It is not in my expert report. I relied entirely on his work and I'm not going to get into his dose response work in my testimony.

Q Okay well, you have the document in front of you. Could you turn to Page 13 in the 1986 EPA document? You are familiar with this document because you have relied upon it from time to time in your own work, correct?

A Yes, and I also commissioned the work and I was director of the office when the work was done but that doesn't mean that I presumed to do the dose response work myself and I'm not going to redo Dr. Moolgavkar's work. And if you asked him about it yesterday, you have his answers.

Q Could you turn to Page -- the bottom -- it talks -- the study of U.S. and Canadian insulation workers by Selikoff, do

you see that, 3.2 mortality associated with asbestos exposure?
A I'm not sure where you are.
Q Bottom of the document. The study of U.S. and Canadian insulation workers by Selikoff, et al.
A Yes.
Q Okay, the last sentence on the page reads, "The mortality experience of 17,800 asbestos insulation workers was studied prospectively from January 1, 1967 through December 31st, 1976. The workers were exposed primarily to chrysotile prior to 1940, to chrysotile and amosite from 1940 through 1965 and largely to chrysotile thereafter. No chrysitolite is known to have been used in the U.S. insulation materials. Selikoff, et al., 1970." You don't dispute the facts as stated in this 1986 EPA document, do you?
A This is one of ten studies that Dr. Nicholson used to derive his merge to curve for -- for his cancer dose response curve. Now as I've said, I'm not going to discuss Dr. Moolgavkar's dose response work. I think you had him here yesterday to ask him his questions. He has characterized this work in his report. He has characterized this 3.2 as containing chrysitolite. My understanding is that the relative risk of two was calculated from this very conservative EPA dose response curve that's an upper bound. And as I said earlier, there are a host of factors to be discussed when one wants to discuss this relative risk factor and I've already listed a

number of them. As to the dose response work, I am certainly deferring to Dr. Moolgavkar.

Q But you are saying that you believe the 3.2 dose response isn't applicable here?

A Yes.

Q Because you believe it contains chrysitolite. And I'm pointing out to you that the insulation potency factor is higher than the one that Dr. Moolgavkar used and it's a cohort of people that were not exposed to chrysitolite, correct?

A Dr. Nicholson did not derive his dose --

MR. BERNICK: Objection. Objection to -- I'm sorry, Dr. Anderson. I object to the form of the question. It's compound and it assumes a record with regard to Dr. Moolgavkar's testimony that's not been before this witness.

THE COURT: No, I think that's not what it assumes. I think the basic question which was based on this document which I think the witness did not answer which is whether or not she accepts the proposition that's stated in this document and that's really the appropriate question.

MR. FINCH: That's the question.

THE COURT: Let's go back to that question.

MR. BERNICK: So what statement are we talking about?

THE COURT: The statement on Pages --

BY MR. FINCH:

Q Do you accept the proposition, that the insulator cohort

of the study by Selikoff from 1967 to 1976, "that these workers were exposed primarily to chrysotile products to 1940, to chrysotile and amosite from 1940 through 1965 and largely to chrysotile thereafter, no chrysitolite is known to have been used in the U.S. insulation material." Do you accept that factual statement in this document, Dr. Anderson?

MR. BERNICK: Objection, lack of foundation.

THE WITNESS: I said -- you've read it correctly but Dr. Nicholson used ten studies to derive a common dose response curve.

BY MR. FINCH:

Q Dr. Nicholson didn't use --

A And I don't see what bearing that has --

Q Dr. Nicholson used the four studies in here, correct?

A But then he derived a ratio so that he could go back and pick up the other studies to complete his dose response work. Dr. Moolgavkar has discussed this in detail in his report and I don't wish -- I don't want to and I don't feel it necessary for me to try to invade his territory. But you read that statement correctly.

Q And you don't dispute that it's factually accurate?

MR. BERNICK: It's the same question that he's now put to her four different times --

THE WITNESS: You read the statement --

MR. BERNICK: -- and there's no foundation for it now

and there wasn't foundation for it before.

THE COURT: Well, I don't know the foundation for it. I don't know whether she has any personal knowledge of the facts. So if she does, she can answer the question. If she has no personal knowledge of the facts, she'll state so. Dr. Anderson, do you have any personal knowledge of the facts within this report?

THE WITNESS: I do and I know that he's reading correctly one summary statement from one of the ten studies that were eventually used. And I said that the eventual dose response work involved a number of studies and that's what Dr. Moolgavkar -- that's his specialty and that's what he has discussed and it is not my specialty.

BY MR. FINCH:

Q All right, this is a graphic that -- would you put the ELMO on please?

UNIDENTIFIED SPEAKER: I'm sorry, what?

MR. FINCH: Put the ELMO on please?

BY MR. FINCH:

Q Dr. Anderson, this is one of the graphics that Mr. Bernick showed you, is that correct?

A Yes.

Q Okay, you have various what you call benchmarks on the right-hand side here, correct?

A Yes, and they are truncated because there are ones that

are higher.
Q Right, the scale is broken on the right-hand side, right?
A Right.
Q Now, in your view, someone who has been exposed -- is it correct that someone who has mesothelioma, who has been exposed to cumulative fiber years of exposure to Grace asbestos of 17, that their mesothelioma could have resulted from that exposure to the Grace products?
MR. BERNICK: Objection to the form of the question.
THE WITNESS: No, that's not what this analysis shows. What I said is using these screening analysis techniques -- now, later on I looked at the information I had and I saw that just by adjusting even one parameter which was the duration from the PIQ's, you see very different patterns emerge. But I said using a very severe upper bound conservative screen, that I would recommend that the A's and the C's be further analyzed.
Q Okay, so it's at least possible that those -- that you would admit that those could have been caused by exposure to Grace asbestos?
MR. BERNICK: Objection. Calls for speculation, lack of foundation.
THE WITNESS: I was not addressing causality. This is a screening process and what I have said is there could be some reliable scientific information behind these claims and

they should be looked at further.
BY MR. FINCH:
Q Okay, what about -- do you believe that -- is it your opinion that someone who is exposed to 4.5 fiber years of exposure to Grace asbestos that that person's mesothelioma could not under any circumstances be attributed to the Grace asbestos exposure?
MR. BERNICK: Objection. What person are we talking about?
THE COURT: Yes.
MR. FINCH: A hypothetical person.
MR. BERNICK: A hypothetical person under what particular circumstances?
MR. FINCH: Your Honor, may I get an answer to my question?
MR. BERNICK: Your Honor, I really --
THE COURT: No, you can get a ruling on the objection. Gentlemen, both of you have to stop this. All of you have to stop it. The ruling on the objection is that the objection is sustained. The hypothetical at this point does not fit the facts. You may restate the question.
BY MR. FINCH:
Q Dr. Anderson, is it your view that someone who is exposed to 4.5 fiber years cumulative exposure to Grace products does not have a scientifically plausible claim that their

mesothelioma was caused by the Grace exposure?
A All right, if we take this completely away from my analysis because I did not do individual analysis, I am not trying to establish causality. I was trying to establish a viable screen at a very severe upper bound conservative level from the analysis. But if you ask me if I think that someone, anyone with this kind of exposure has -- what did you say?
Q Has a mesothelioma that has a scientifically valid claim that their mesothelioma could have been caused by exposure to Grace asbestos.
MR. BERNICK: I object to the form of the question.
THE COURT: That's sustained.
THE WITNESS: Certainly not.
THE COURT: It's sustained. This witness is not doing individual causation analysis. There is no foundation on this record for that.
BY MR. FINCH:
Q Okay, so in your view someone who has 4.5 fiber years of exposure to Grace asbestos and has mesothelioma, that person cannot scientifically, validly attribute their mesothelioma to the Grace exposure?
A I said I was willing to answer in the abstract. That's not the subject of my analysis. But we are on the inference part of that curve. I presented all of these benchmarks to give a feel for just how low these values are or how high they

are. I had the benchmarks and then I assembled the data. But when you're speaking of these very low levels that are vastly lower than the observed range, I can tell you what, I think, that is, that we are getting very far away from the scientific basis for making that judgment. And that's what I've said in my deposition. I'm being consistent.

But this is not -- I'm not doing individual causality analysis in this work I've done. I'm looking again --

Q So you're not doing -- you're not offering any opinion that someone with any particular exposure to Grace products, that their mesothelioma couldn't have been caused by that exposure?

MR. BERNICK: Objection to the form of the question. Are we talking about a specific individual? Are we talking about individuals within a group?

MR. FINCH: Any individual.

MR. BERNICK: I don't think that addresses the issue. Your Honor, at this point I think this witness has been here for a long time. This is argumentative --

MR. FINCH: Your Honor, this is an argumentative objection. He should either object to form or not object to form.

THE COURT: Mr. Finch, the witness has testified repetitiously that she has been doing analyses within categories, that she is not looking at individual analyses --

MR. FINCH: Okay, let me ask three more questions.
BY MR. FINCH:
Q You have something called OSHA PEL on there as a benchmark, correct?
A Yes.
Q Is it your view that the OSHA PEL is -- that there is no excess risk of mesothelioma from exposure to asbestos at that level?
A Using public health protective risk analysis, there have been some statements, hypothetical statements of risk associated with that. They're not that high. It's what OSHA accepts. What I have said is that if we're dealing with scientific-based information, we would need to be above the observed range, about 25 fibers per milliliter year. And as we go down that curve, the competence that there is any association becomes less and this is very low on that competence curve. So I'm not establishing causality. I was providing this information for a screen and against that screen I was using an exceptionally severe set of assumptions. And so I think you are -- I don't think I can answer individual claim questions.

The second part of that answer has to be, for any individual claim, I think one must look at, if anyone is doing this which I am not as far as risk analysis is concerned, you'd have to look at the whole set of circumstances, how long a

person has been exposed, what are the alternative exposures. And just to say if someone was exposed at 4.5 and the inference zone of a hypothetical dose response curve where the curve is uncertain in the inference zone anyway and it's uncertain by factors -- Nicholson said factor of 20 on either side -- I don't think that this OSHA number is created to establish causality. That's my view.

Q Are you aware that OSHA's preamble to the regulation states that OSHA's risk assessment also show that reducing exposures to 0.1 fiber per cc would reduce excess cancer risk to 3.4 per 1,000 workers?

A That is -- that's what I was talking about earlier when I talked about the divergence between causality and inference-based judgments. OSHA is speaking as a public health protective agency. They're charged with protecting worker health. They're using the same precautionary dose response curves I used at EPA and that's what they mean. They're reading that value off of this hypothetical default curve that I described earlier that I described as a plausible upper bound on the risk, meaning the risk could be considerably lower even approaching zero.

So they're saying if I go down that curve somewhat more, I would get a smaller number. But, in fact, we don't know that there's any cancer caused, or mesothelioma or any cancer, caused on this linear non threshold curve. And the

desire in all of risk analysis for carcinogens now is to understand the mechanisms of action so that we can better describe the slow dose range. So these are hypothetical upper bound risk estimates and that's all they are.

Q And you didn't make any attempt to analyze causation on an individual claimant level, correct?

A Correct.

Q And you did not -- you didn't make any attempt to estimate any exposure to asbestos that these individuals would have had from sources other than Grace, correct?

A That's correct.

MR. BERNICK: Objection.

THE WITNESS: I made note in my expert report only of alternative claims and then also I did make note of those claimants that I particularly made the assertion that they were exposed in shipyards.

BY MR. FINCH:

Q Okay, if the category B claimants showed cumulative asbestos exposure of 4.5 fiber years, would you have concluded that those claims in that category should be subject to further review?

MR. BERNICK: I'm sorry, could I have the question read again?

BY MR. FINCH:

Q If the category B claimants showed that they had

cumulative exposure to Grace products of 4.5 fiber years, would you have concluded that those claims in that category should be subject to further review to determine whether Grace --

MR. BERNICK: Objection.

MR. FINCH: -- could have caused their mesothelioma?

MR. BERNICK: Objection to the form of the question. Is he asking about if there was one person in the category or whether the mean dose in that category was 4.5?

BY MR. FINCH:

Q If the mean dose in that category was 4.5 instead of 2.1.

A It would depend on the product, the product mix and a view of all the benchmarks. I wouldn't do it necessarily just because -- that's if you're exposed to the OSHA standard for 45 years and that does not mean that OSHA has set a standard, that they think, in an occupational setting would cause mesothelioma, nor do I. But I think before that judgment could be made, one would have to look at the entire nature of exposure category, what the product is that one is being exposed to and make judgments against all of the benchmarks. But probably not.

MR. BERNICK: Your Honor, at this point I would note that Mr. Finch has now doubled his 15 minutes and their estimate of two and a half hours is wrong by 35 minutes and they have now doubled the time that I spent on direct examination and I'm concerned about finishing today.

MR. FINCH: Your Honor, I don't have any more questions.

THE COURT: Redirect?

MR. BERNICK: Let's do a couple of things here this afternoon quickly. Could I have the ELMO on please for just a moment? Thank you very much.

REDIRECT EXAMINATION

BY MR. BERNICK:

Q Referring you to that same table which is contained in GX-188 that had the K-M factors that Mr. Finch talked about, he asked you a lot about this one here which is insulation workers which is 1.5 times ten to the minus eight, do you recall that?

A Yes.

Q And if we take a look at the insulation workers and in fact the description that Mr. Finch directed you to, it was at Section 3.2, and the continuing on or the continuing language on Page 14 was, "These workers were exposed primarily to chrysotile prior to 1940, to chrysotile and amosite or from 1940 to 1965, and largely to chrysotile thereafter." You see where it refers to exposure to chrysotile and amosite for 25 years?

A Yes.

Q Does that or does not include the war years?

A It does.

Q And were the insulators -- tell us what role, if any, the

insulators played during the war years in terms of their work on insulation.

MR. FINCH: Objection. Lack of foundation.

MR. BERNICK: You opened the door.

MR. FINCH: No, you objected on lack of foundation. He did not lay a foundation that she studied the insulator population to know what they were doing during World War II. Dr. Selikoff and Dr. Nicholson did that work, not this witness.

THE COURT: You can ask her if she has knowledge of the facts. If she does, we'll go forward. If she doesn't, we won't.

BY MR. BERNICK:

Q Do you know about that, whether the insulators were involved in the war effort?

A Certainly they were.

Q Thank you. Now, Mr. Finch didn't ask you any questions about the proportion of chrysotile and amosite that the insulators were exposed to, did he?

A No, he didn't.

Q Do you know what the proportion is?

A I don't know exactly but I believe it was --

Q If you don't -- it's up to you. I'm not asking you to speculate. If you know, you know. If you don't, you don't.

A I don't know exactly.

Q Did he ask you to compare the proportion of amosite that

these folks were exposed to for 25 years with the proportion of any amphibole that was in Grace's product? Did he ask you to do that comparison?

A No.

Q Is that something that's within the scope of your testimony or work in this case?

A It could be.

Q That is, to make those detailed comparisons of how much --

A No.

Q Now, he then didn't ask you about this figure of the table which is the cement factory workers. He wanted to point out that 1.5 was greater than 1? Remember he asked you that question?

A Yes.

Q He didn't take you down to this one. Which is bigger, 1.2 times ten to the minus seven or any of these numbers times ten to the minus eight?

A The 1.2 times ten to the minus seven, of course.

Q Of all the studied data, of all the K-M factors, which one actually is the largest factor of the set?

A The one for the cement factor workers.

Q If we go back to GX-188 and Section 3.9.14, we see in this table here where it talked about that vector, there was citation, "Cement Factory Workers, Finkelstein 1983," do you see that?

A Yes.
Q Is there also a Page 76 then, a reference to Finkelstein 1983 and the asbestos cement products?
A Yes.
Q Is there a description that appears here as to whether chrysitolite was involved in the study that produced the largest K-M factor?
A Yes, it was.
Q Is that consistent or inconsistent with the testimony that you earlier provided based upon the advice that you had received from Dr. Moolgavkar?
A It's consistent with the advice from Dr. Moolgavkar.
Q Let's talk about another detailed item. With respect to ACC/FCR 3020, do you recall being directed by Mr. Mullady to the bottom of Page 52 where he read, quote --

THE COURT: I'm sorry, what exhibit is this please?

MR. BERNICK: This is ACC/FCR 3020, Your Honor.

THE COURT: Thank you.

BY MR. BERNICK:
Q He read the quote that says, "However, the correlation between fiber counts and total dust is sometimes poor within the plant, i.e., a single study environment, and generally poor between plants," and there's a citation to EPA publication in 1986. Do you see that this paragraph relates to samples collected prior to the mid 1960's were often analyzed by

measuring total dust in units of millions of particles per cubic feet using impingers or thermal precipitators, do you see that?

A Yes.

Q Does that have any relationship to the broader statement that appears below?

A Certainly.

Q What is that relationship?

A Well, it means that the fibers collected earlier by the impinger technique is the measurement. I wasn't quite sure because I didn't read that. But it means that that's the basis for the discrepancy.

Q Yes. I'd like to take you back to a couple other small things and then ask you a couple of broader questions. Where you have --

MR. BERNICK: This is kind of a little bit interesting if I could approach the witness, Your Honor?

THE COURT: Yes.

BY MR. BERNICK:

Q Mr. Mullady started out his examination and he said, You have assumed, have you not, 45 years of Grace exposure and you then observed that in whatever category it was, maybe it was more general, but when it came to a category, 77 percent of the people had mesothelioma. And he asked you whether you had in some fashion considered whether a logical explanation for all

of this mesothelioma was the assumed 45 years of Grace exposure. Do you remember that line of questioning?

A Yes.

Q Okay, the -- your analysis, does it work from the observation of meso back to Grace exposure or does it work the other way around, that is, the observation of Grace exposure and the question of whether it could cause that level of mesothelioma?

A Certainly, the latter was the subject of my analysis.

MR. MULLADY: Objection to the leading -- objection to the leading nature --

MR. BERNICK: It's not leading at all. I asked for two alternatives.

THE COURT: I'm sorry, Mr. Mullady --

MR. MULLADY: Could I make my objection?

THE COURT: Yes, please. I didn't hear you. I'm sorry.

MR. MULLADY: I object to leading the witness.

MR. BERNICK: Your Honor, I asked for two explanations. It either goes this way or that way. Two picks.

THE COURT: I don't think that's leading. But if it is, I think at this point in the day, Mr. Mullady, I'm too tired to know. So I'm overruling the objection. I don't believe it's a leading question. But if it is, frankly, Mr. Bernick would be able to restate it and this witness would be

able to figure it out anyway. So at this point I'm going to assume that --

MR. MULLADY: At this point, that's true, Your Honor.

THE COURT: -- that the witness will be able to answer that question.

MR. MULLADY: Now that we've had it laid out for her, I'm sure she could.

THE COURT: Go ahead and answer, Dr. Anderson.

THE WITNESS: Yeah.

BY MR. BERNICK:

Q Which way does your analysis go?

A Well, the whole subject was the first question I stated which is, could the exposures to Grace products be responsible for the mesothelioma?

Q If we had the observations that we have a high rate of mesothelioma and we wanted to work the other way around, what, if any, other factors could be present in your view that might provide an alternative explanation for the mesothelioma, an alternative to exposure to Grace products?

A Well, certainly exposure to other products.

Q Now, that then leads to my next set of questions. Mr. Mullady and, I believe, Mr. Finch, principally Mr. Mullady, said well, if we assume 45 years of exposure to Grace products and that is what you assumed for purposes of your analysis, you address the question of whether, based upon your analysis and

the cumulative doses, you answered the question whether that provided a reliable scientific evidence that Grace exposure caused disease in whole or in part, do you remember your testimony, as to whether the -- based upon the cumulative doses over 45 years, whether under your analysis there was reliable science to say that Grace caused disease either in whole or in part, do you remember that?

A Yes.

Q And I think we know what your conclusion was. What was your conclusion as to whether there was reliable scientific evidence in support of that proposition?

A That there's no such evidence for B, D's and E's.

Q Now, I want you to assume that it's not 45 years of Grace exposure. I now want you to assume a different case which is there's non-Grace exposure as well. What would that do to the cumulative doses that you analyzed?

A It would proportionally reduce those cumulative doses because we would be subtracting years from Grace exposure.

Q Now tell me, if we're reducing the cumulative doses, what, if anything, will that do to the possibility or probability that Grace asbestos caused the diseases at issue in whole or in part in categories B, D and E?

A It would decrease the cumulative exposure levels proportional to the number of years that are subtracted from the 45 years.

Q And what effect, if any, would that have on the probability that Grace exposure could cause those diseases?
A It would make it even less probable.
Q Now I believe you said, and I just want to be clear, that when it came to this question of whether Grace exposure was 45 years or not, your model did, in fact, assume 45 years?
A Correct.
Q I want to show Exhibit 2215 if we could. That is the wrong exhibit. The right one is 2295. Sorry, T.J. What is it that you actually found when you went to the actual PIQ data that was available? Did you find that the exposure was, in fact, exclusively to Grace or did you find otherwise?
A I found otherwise as I explained when we discussed this slide.
Q And what again would that do if we now look at the PIQ data itself, what would that do to the possibility that the Grace exposure caused disease?
A It would make it less probable because for every year that these claimants worked in another environment, and 94, 93 percent of them said that they did not get Grace exposure. They were in a different environment and worked getting some other type of exposure.
Q Okay, now I want to show you, if we could go back to the ELMO for just a moment, ACC/FCR 3017 which was the PIQ file for one of the claimants and I believe it was Mr. Mullady who

directed your attention to the fact that, indeed, when it came to Grace exposure, this individual was a D and an E for approximately eight years, do you see that?

A Yes.

Q Okay now, based upon the way that your model works, based upon -- we have an individual who specifies on the claim form that he is a D or an E --

A -- for nine years.

Q -- for nine years, how would that individual have been treated under the model, under your assumed model?

A He would have been treated as if he had 45 years of exposure instead of nine years of exposure.

Q And in point of fact when we take a look at the non-Grace exposure, he says that he worked for two years as a category A for Johns Manville and then he worked as a D and an E for Container Corp in Philadelphia, do you see that?

A Yes.

Q If we now assume again that because a statement appears in the body of the PIQ that is accurate, with respect to this individual, would your model have been conservative or would your model have cut against it?

A It would have been highly, highly conservative because we now reduce the years that he was exposed -- he was available to have been exposed, and by his own admission, he was only exposed nine years to Grace product.

Q A detailed question, it was pointed out on cross examination that in about 66 percent of the cases there was insufficient information that put people into categories, do you recall those questions?
A Yes.
Q Do you know with respect to those people whether they simply did not have evidence or whether they simply chose not to disclose it, do you know one way or the other?
A I don't.
MR. FINCH: Objection. Lack of foundation.
MR. BERNICK: I just asked do you know.
THE WITNESS: And I said we couldn't know.
BY MR. BERNICK:
Q I want to talk about individuals for just a moment. A lot of questions that related to individuals in different ways. I want to make sure that we have the testimony clear. As I understand it, you take the top line of your chart 2296, we have a job category or an exposure category leading to a mean concentration which you max out leading to a dose and you then have the benchmarks up here. We're not yet at the last column which are the claims review, at this point in your analysis, do we have any individuals in the picture at all?
A No.
Q Now we go to the last column and we do the claims review. Does that claims review relate to real world individuals?

A Yes.
Q Okay. With respect to those individuals, what was the purpose of doing the individual claims review? What was the purpose of focusing on individuals at that point?
A Because we were fitting together the nature of exposure categories in those exposures now and the cumulative exposure with the individuals from the PIQ so they could be placed into the categories.
Q Based upon your expertise in risk assessment, tell us whether the scientific analysis that you had done for each of these different categories, tell us whether or not it applied to the individuals who after the claim file review were placed in those categories. Did it apply to them?
A It applied to them once they were in the category because then they were in the category with the job exposure.
Q Now we know from your direct examination, I believe, that after you did all that, you went back and considered the question of whether your treatment of those individuals, that is, whether your model as applied to all those individuals was conservative or not?
A That's correct.
Q And part of that was to look for individual data. Could we go back to 2280? Tell us whether -- explain to us how, if at all, Exhibit 2280 bears on how, if at all, it shows how looking at individual data relates to your analysis.

Q Well, we've already seen from the PIQ that as soon as we start to look at individual data, we find lower duration of exposure. As soon as we did any analysis with the individuals in category E who were maintenance workers or in building maintenance categories, we found that they were exposed 16 percent of a lifetime instead of -- I mean 16 percent of a working lifetime rather than -- I mean 16 percent of 250 days a year rather than 100 percent, and one percent in the case of maintenance workers dealing with VAI insulation. So --

Q If we focus on the individuals that we actually have here, the PIQ individuals --

A And then in the PIQ we find --

Q Just let me put a question to you. What effect, if any, in consideration of individual data have on your analysis when you look at the PIQ data relating to duration in categories A and C?

A Well, as I would expect, as soon as we start to look at individual data, these very high screens go down. We see here from the PIQ data the duration that we assume to be 100 percent falls down rapidly, 98 percent are under 45 years, 54 percent under 25 years. So we see that these screening levels that have established would go down as we get individual data and would become lower levels, therefore, even further removed from benchmarks.

Q Let me ask you a very specific question. If it turns out

that the individual data for any particular individual is inconsistent with what you assume in the model, does that mean that the model itself is wrong?

A No.

Q Why not?

A What that would likely mean from what we know from long term experience and what we know from this exercise and what we know from these very high upper bound assumptions, individual data in all likelihood is going to make the cumulative exposure for that individual far lower than the cumulative exposure that I have created by these extreme assumptions for these nature of exposure categories.

Q Now, I want you to -- I want to put a chart up and push you on that a little bit. I want to show you what we've marked as Exhibit 2300 for demonstrative purposes.

MR. BERNICK: Have we given it to the other folks?

UNIDENTIFIED SPEAKER: Yes, I did give it to them.

MR. BERNICK: And T.J. has it? Could we please display that?

BY MR. BERNICK:

Q I want to take a look at this chart for a moment and put a question to you. A lot of questions were asked of well, what if it turned out that somebody in B, D or E was higher than the mean would predict, do you remember that, those kinds of questions?

A Yes, I do.
Q Okay, is it possible that we could have in categories B, D and E some individual that on analysis turns out to have been the guy who was like, you know, always got the rain cloud over his head, is always -- the asbestos is always with the wind into his face, could we have possibly an individual, maybe more than one individual like that?
A I think I said earlier that it would, in my view, be a very low probability event but certainly, anything is possible, and it's possible.
Q Okay, and under your analysis because you look at the mean, if that possibility is actual, that's one person who got included in B that shouldn't have been included in B, right?
A Right.
Q Okay. Now, tell us whether or not the same is true with respect to A and C. Tell us whether there's a possibility that with respect to the people who are in A and C can swell the amount of that group, whether they were included even though their exposures were far lower than the mean, is that also a possibility?
A I said earlier that that's a high probability.
Q Well, first of all, is it a possibility?
A It's a possibility.
Q Okay. Now, do we know whether that possibility is real?
A Yes, we think it's in all likelihood because we see that

we have several vectors that point that way and they were displayed earlier, particularly in the duration data.

Q And that would be 2293 if we could show that briefly. Is this one of the charts that is when you actually looked at the individual duration data, keeping all of your other, you know, max, max, max where it is, how does that -- how does this relate in the question of whether there are people in category A who may not really belong in an analysis that says maybe 15 fiber years?

A Yes, I think this is a very important consideration. We see here that we have 98 percent of A's and C's are now under the 15 fiber mil years where the scientific evidence ceases. And we find that 69 percent are under the 8.9 Libby fiber based doubling of risk. And actually, these numbers are probably, in many cases, more appropriately related to what would be somewhere between the 80 benchmark for chrysotile and the 8.9 for the Libby amphibole fibers. So it would probably be in the range of about 40. So I think here we see we have 69 percent of these A's and C's going for further analysis who probably, in all honesty, did not get their mesothelioma from these exposures. But we're pushing those forward.

Q You were asked last seria, you were asked questions about it, tell us where it is written that you should be looking for long term exposures, you should be looking towards the mean, do you remember those questions?

A Yes.
Q I want to show again 22 -- refer to your experience, 30 years of experience, I want to ask you a question about a publication and ask you whether this has any relationship to the experience that you've just described. I want to show 2217. We showed this on your direct examination --
A Yes.
Q -- which was EPA guidances and documents.
A Yes.
Q What, if any, relationship does that have to the experience that you recited with regard to using the mean?
A Well, I cited long term experience. I founded EPA's exposure group. It was the first exposure group founded. And in the very beginning a lot of our work was with air measurements and then we moved to pesticide applicator and those issues and then to superfund site and those issues. And we learned from experience from large data sets that the average concentration is the most representative, particularly for long term exposures.
Q Now, finally, as part of the same examination, I've got a couple more questions and we're done. You were asked a bunch of questions about sampling, that if you wanted to do a true average, that somehow there had to be a proper sampling done. Now, if we are talking about a site that exists today, we wanted to characterize the site today, tell us whether or not

in terms of what the concentrations are, et cetera, et cetera, et cetera. If we're looking at a site today where we can go ahead and do the sampling, is it or is it not desirable from your point of view to have a thorough going sampling effort?

A It certainly is and it depends on the particular situation. If it's air sampling, long term annual monitors are placed around sources to monitor the variables over a long period of time because short term samples do not reflect the long term mean.

Q But now, what if you're in a situation where, you know, you're at the EPA or your not at the EPA but you got a site that's a very, very old site and people no longer work there at the jobs they used to have, they're trying to figure out what their exposures were, is there any way that you can kind of historically take yourself back in a little time capsule and go and do a sampling analysis?

A No, we can't do that.

Q Is there anywhere that you know where EPA or any other convention within the field of risk assessment says that before you can calculate an average with respect to past exposures where the sampling is no longer possible, that before you can put pen to paper and calculate an average, you have to have a proper statistically deviated whatever sample? Is there any requirement that says you've got to have that in order to do your average?

A No.
Q If it were true that EPA or anybody else could not characterize past exposures where the work is no longer being done without a statistical representative sample, would people be able to do the work of figuring out risk associated with past exposures?
A No.
Q If individuals who wanted to get compensation on the theory that they were over exposed, couldn't get compensation unless they get to do a true average based upon sampling, they were exposed back in the 50s and 60s or maybe in the early 70s, could they get compensation if somebody were to require that they did a true statistically, significant deviated sample?
MR. MULLADY: Your Honor, objection. I think now we're really far afield from the line of questions from which this redirect is supposed to be emanating.
MR. BERNICK: To the contrary.
THE COURT: It's argumentative, Mr. Bernick.
MR. BERNICK: It is a little bit argumentative and on that note, I'll rest my question.
THE COURT: All right. Mr. Mullady?
MR. MULLADY: Yes, just one question.

RECROSS EXAMINATION

BY MR. MULLADY:
Q I'll ask it from here, Dr. Anderson. You had no long term

data from Dr. Lees, did you, to work with?

A He was creating eight-hour annual averages -- TWA averages.

Q Right, single day point in time averages taken by him.

MR. BERNICK: Objection, objection. Creating a single point average, I don't understand that question.

THE WITNESS: He was creating eight-hour mean averages because of the nature of the work. I was using them to generate long term frequency and duration. He was not trying to measure -- conceptually, I think I know what you're trying to address. He's not trying to measure, conceptually, a measurement from a facility that was operating over time. He was trying to capture in a job category where people work on a daily basis an eight-hour time-weighted average and he had a number of data sets, in some cases, many data sets, in some cases, fewer, to capture that.

So we were trying to do an industrial hygiene study here, not a long term average environmental monitoring study. So here it's appropriate for him to try to capture as best he can what those exposures are in an occupational setting averaged as an eight-hour time-weighted average.

MR. MULLADY: Nothing further.

THE COURT: Mr. Finch?

MR. FINCH: Nothing, Your Honor.

THE COURT: Mr. Bernick?

MR. BERNICK: I have nothing further.

THE COURT: You're excused, Doctor, thank you.

THE WITNESS: Thank you.

THE COURT: All right, folks, you told me you needed to leave at five. It's five to five.

MR. BERNICK: This is true, Your Honor. I guess there are only two items to cover, potentially cover, and we're not going to have time to do it now I suppose, but I'm not sure exactly what we can do.

THE COURT: Well, let me address --

MR. BERNICK: The 408 -- sure.

THE COURT: Let me address the Rule 1006. I did have a chance to take a look at that. This is what I think the outcome about the 1006 ought to be. The cases, except for the one from Texas, all seem to address writings and documents that are admissible in and of themselves in some fashion. The Texas cases, the only one that actually, I think, addresses testimonial evidence, at least it's the only one I had a chance to look at -- if there are others out there, then I just didn't get to them all. I didn't get to them all, so I have to say that, but to the extent that it addresses the testimonial issue, it seems to me that the analysis ought to be, if there are others out there and somebody can point me in a different direction if I'm headed in the wrong one, that the testimony itself should be admissible and probably admitted, otherwise

you've got a hearsay problem. And so probably, the depositions have to come in anyway. Once they're in, frankly, I don't have any problem with the summaries because I think you are going to summarize those anyway, either by way of proposed findings of fact and conclusions of law or statements in your briefs anyhow. And that's just the reality. That's what's going to happen. So I think the summaries would actually be helpful.

And the format of the summaries where you take the topics that you think will be of relevance in your particular theory of the case and summarize what witness -- witnesses you think should be relevant and put together the collection of exhibits, depositions, trial testimony, whatever the substantive exhibits are that you think would be relevant to those points actually is very helpful. That would be helpful.

The difficulty may be that if it's depositions that you're summarizing because of the hearsay problem, I think that deposition probably has to be in evidence anyway. As to the documents and writings, I don't think those have to be actually admitted. They simply have to be admissible and you folks have already been through those documents so you've probably got a view as to whether they are or are not admissible.

But I think that's the issue and the way I've got to focus on it. So I don't think it's going to save much time in terms of looking at the deposition testimony. I have to either read it to the extent that you want to submit it. If you can

eliminate portions of it -- frankly, if somebody is taking the Fifth Amendment and it's nothing but a question and then an assertion of the Fifth, I don't know why I need to read that except to identify the witness. You know, there's no evidence before me in that sense. Now, there may be inferences that can be drawn and if you want the assertion of the inference later, it appears, I think, you can simply point that out. But why we have to play a whole deposition transcript simply to watch somebody take the Fifth, I don't know why I need to do that. I had enough Grand Jury experience watching people take the Fifth. I know what that's like. I don't really need to spend a whole day doing that, frankly.

But to the extent that you want to play a smattering of the deposition just so there's a, you know, an identification of the witness, I don't have any problem doing that if that's valuable to you. If you want me to sit there and watch the witnesses take the Fifth, fine, you know, I'll do it. My time is your time.

MR. BERNICK: We don't want to do any of that, frankly. With respect to the Fifth Amendment, we do want the adverse inference and the way to do it, of course, is to submit evidence --

THE COURT: Right.

MR. BERNICK: -- evidence is prior testimony so we've got that there. I guess, given Your Honor's ruling, the

question is do we want to -- I guess we -- do you want us to spend three hours playing this stuff? Now, we, again, we have no interest in that, but in order to be able to get the testimony in evidence, Your Honor said before that you wanted to have it take place real time in court.

THE COURT: Yes, the reason for that is I know what will happen. If it's not done in court, it's going to sit back there until I have an opportunity to get to it and that will probably delay things. And frankly, it seems to me that if -- and it will also force you to focus your energies on what portions of these transcripts you actually think I need to see rather than having me simply go through and read, you know, lots of objections that are meaningless and lots of arguments on the deposition transcripts that I really don't need to read because you don't -- it's not really something that you're going to offer.

So I think you folks can spend the time whittling down the depositions to what you want me to actually either see by video or read here. I don't care which. But I think it should be done in court. And then to the extent that the depositions are admitted and the documents are admitted, I'm happy to take the summaries thereafter. The evidence will be in. I think Rule 1006 will provide for it. That everybody can do it, I think you'll be doing it anyway as part of your proposed findings of fact and conclusions of law. So whichever

way it comes, I think will be fine.

MR. BERNICK: Okay, so that then leaves us with the Rule 408 issue and the question of what to do on Monday.

MR. MULLADY: Excuse me, could I just get a clarification of the Court's ruling? I'm sorry, David. There's something I'm just unclear about. If the premise of Your Honor's ruling is that for the summaries to be offered, the underlying evidence has to be admitted --

THE COURT: With respect to the deposition transcripts.

MR. MULLADY: Correct.

THE COURT: Yes.

MR. MULLADY: Some of these summaries refer to depositions taken in other cases.

MR. BERNICK: That's solely for purposes of the adverse inference. And for purpose of the adverse inference, the testimony does not actually have to be admissible evidence. That's what the rule says. But you can argue that later on with respect to people who take the Fifth Amendment, we'll have to -- if you want to take issue with that, we can argue that --

MR. MULLADY: That was --

MR. BERNICK: I'm sorry, the bulk --

MR. MULLADY: I was asking the Court for clarification on that aspect of your ruling.

THE COURT: Okay, Mr. Mullady, I'm sorry, in the

little bit of time I have, I'm not familiar with the fact that some of these are coming up in other cases. I think Mr. Bernick has accurately stated the premise, but if you need to brief that, then, you know, brief it. My view right now is why don't you see if you can't work through that particular issue and see what we can do? I think as -- I don't want a hearsay problem, okay?

MR. MULLADY: Understood.

THE COURT: I want to get past the hearsay problem with respect to the depositions. I don't think that hearsay problem exists because of the rule where the documents, writings and recordings only have to be admissible in the Third Circuit, not admitted. I think the deposition issue is a different issue because of the hearsay problem.

MR. BERNICK: The difficult -- that's fine, Your Honor. We -- the deposition designation process has been under way for some time. If they wanted to move in limine on the depositions, they should have done it a long time ago. I'm only reacting to Your Honor's invitation -- not invitation, but suggestion that they may have the opportunity to brief. This matter is up. It's a today thing, so --

THE COURT: No, only with respect to the adverse inference. I don't know whether -- I don't know how that will work with respect to a deposition in another case in the adverse inference, that's all.

MR. BERNICK: So we have on Monday -- we have only one live witness left, that's Dr. Florence.

THE COURT: All right.

MR. BERNICK: And we were going to call him on Monday and rest. It sounds to me like we're not going to be able to rest because we have to do this process. And I don't know, I would always be optimistic and assume that there won't be very much to be read, but right now the designations take in excess, I think it's like two and a half or three hours. So the question then becomes, do we do the depositions and argue Rule 408 on Monday or do we call Dr. Florence, put him on and off and then do the depositions? But the problem is Rule 408. What I would suggest is that we try to figure that out amongst ourselves.

THE COURT: That's fine.

MR. BERNICK: But in any event, it doesn't seem to me that -- and I don't want to put Dr. Florence in the position where we do the doctors and then he can't finish or whatever, and I don't know if he may have a scheduling issue or not. In any event, it will be either one or the other, either the doctors or Dr. Florence and I'm assuming that we'll argue Rule 408 at some point during the day on Monday in any event if that's appropriate from Your Honor's point of view.

MR. INSELBUCH: I would think the 408 argument has to be before the Florence testimony.

MR. BERNICK: I would have said so too and we intended to try to do that today, but -- and I think Your Honor set what, 20 minutes aside on Rule 408?

THE COURT: Yes.

MR. INSELBUCH: We can do that Monday. If the Court start early, we could start earlier.

MR. BERNICK: I don't --

THE COURT: But I think the problem is you don't want to bring Dr. Florence in the event that there's a ruling that says he can't testify unless you can defer him till Tuesday.

MR. BERNICK: That's not my concern.

THE COURT: Okay.

MR. BERNICK: My concern is that if we're going to be doctor stuff in these depositions anyhow, maybe the better idea is to argue Rule 408 on Monday, do the doctor stuff, and then call Florence on Tuesday. And that's why I say we can just --

MR. INSELBUCH: I have no objection to that, Your Honor, just so long as -- we have one witness that's only available on April 1st, however, as I told you.

MR. BERNICK: Well, that's the problem is that I don't --

THE COURT: Can we take that witness out of turn? You don't know? Because of Dr. Florence?

MR. BERNICK: The answer to that is no, and the reason is that this schedule has been hammered out and if Dr.

Florence is, in fact, available on Monday, we --

THE COURT: Can we do the deposition readings and the 408 argument at a later date?

MR. INSELBUCH: No.

THE COURT: Do Dr. Florence Monday subject to objections --

MR. INSELBUCH: No.

THE COURT: -- do your witness Tuesday?

MR. INSELBUCH: No. We need Your Honor to rule on, at least in part with respect to 408 before we deal with Dr. Florence. But what I would suggest we could do is we could do the 408 argument at the beginning, we could have Dr. Florence on Monday and the deposition exercise that Mr. Bernick is talking about is one that could be inserted at any time. It's not something that's time-sensitive. We have a witness that must go Tuesday.

MR. BERNICK: Who is that?

UNIDENTIFIED ATTORNEY: Brody.

MR. INSELBUCH: Brody.

MR. BERNICK: I don't have a problem with that. If they want to do it --

MR. INSELBUCH: If we take Brody when we can have Brody, then we will certainly find time to do Mr. Bernick's depositions however we work out that process.

THE COURT: The following week.